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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,328	03/30/2004	Masayuki Iijima	NIS-15441	5100
40854	7590	10/26/2006		
RANKIN, HILL, PORTER & CLARK LLP 4080 ERIE STREET WILLOUGHBY, OH 44094-7836				
			EXAMINER PAPE, ZACHARY	
			ART UNIT 2835	PAPER NUMBER

DATE MAILED: 10/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/813,328	IIJIMA ET AL.	
	Examiner	Art Unit	
	Zachary M. Pape	2835	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,4,6 and 7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4,6 and 7 is/are allowed.
- 6) ☒ Claim(s) 1 and 3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some    \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/3/2006 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being anticipated by Chien (US 6,166,907) in view of Lin (US 5,526,875).

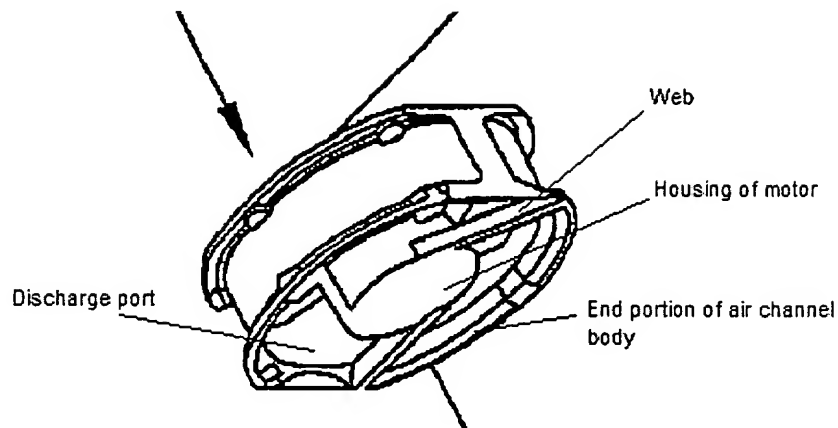
With respect to claim 1, Chien teaches an electronic component cooling apparatus comprising: a heat sink (1) having an electronic component mounting surface (Bottom of casing 12 as illustrated in Fig 1) on which an electronic component (3) to be cooled is mounted and a coolant path (123) with a coolant inlet (124) and a coolant outlet (124) through which a liquid flows as a coolant to forcibly cool the electronic component mounting surface; a radiator (6) having a liquid path (611) with a coolant

inlet and a coolant outlet (Where 126 attaches with the radiator (6) accordingly as illustrated in Fig 4) through which the coolant flows and adapted to air-cool the liquid path to cool the coolant, a motor-driven fan (62) mounted at a heat dissipating portion of the radiator to supply cooling air to the radiator (As illustrated in Fig 5) a first coolant path (126) connecting the coolant outlet of the heat sink to the coolant inlet of the radiator, a second coolant path (126) connecting the coolant outlet of the radiator to the coolant inlet of the heat sink; and a motor-driven pump (414) installed in the first coolant path or the second coolant path to give a moving energy to the coolant: wherein the motor-driven fan includes an air channel body (where the blades of the fan are located) having a suction port at one end thereof facing a front of the heat dissipating portion of the radiator and a discharge port at the other end thereof; an impeller having a plurality of blades (As illustrated in Fig 4), at least a part of the impeller being arranged inside the air channel body (As illustrated in Fig 4), said plurality of blades each have an edge facing the front of the heat dissipating portion, each of the edges sloping gradually away from the heat dissipating portion as each of the edges extends in a radially outward direction from a rotating center of the impeller (As illustrated in Fig 5); a motor (Column 3, Lines 20-21 implies that the fans (62) have a motor) for rotating the impeller so as to draw in air through the suction port and discharge air from the discharge port; and a plurality of engaging pieces (Screws, see Fig 3) integrally provided at the air channel body. Chien is silent as to the radiator having a plurality of engaged portions with which the plurality of the engaging pieces engage. Lin teaches the conventionality of a radiator (52) having a plurality of engaged portions (53) with which a plurality of

engaging pieces (51) engage. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Lin with that of Chien to provide a means of securing a fan to a radiator (Column 2, Lines 15-19).

**Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chien in view of Lin and further in view of Grouell et al. (US 2002/0145853).**

With respect to claim 3, Chien teaches the limitations of claim 1, but fails to teach a plurality of webs connecting a housing of the motor and an end portion of the air channel body on the side of the discharge pod are situated outside the discharge port or the end portion on the side of the discharge port is lower than an uppermost surface of the housing of the motor. Grouell et al. teaches a fan (110a) containing a plurality of webs connecting a housing of a motor and an end portion of an air channel body on the side of a discharge port are situated outside a discharge port (See present office action Fig 1 below) or an end portion on the side of the discharge port is lower than an uppermost surface of the housing of the motor. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the fan webs of Grouell et al. with the fan of Chien to provide further structural support for both the motor and the air channel body.



***Allowable Subject Matter***

3. Claims 4,6-7 are allowed.
4. The following is an examiner's statement of reasons for allowance:

With respect to claims 4, 6-7 the allowability resides in the overall structure of the device as recited in independent claim 4 and at least in part because claim 4 recites, "first portion being formed as an inclined surface.. second portion following the inclined surface.. third portion following the non-inclined surface and being formed as another inclined surface that goes down toward the other side"

The aforementioned limitations in combination with all remaining limitations of claim 4 are believed to render said claim 4 and all claims dependent therefrom (Claims 6-7) patentable over the art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Response to Arguments***

5. Applicant's arguments, see pages 9-10, filed 9/3/2006, with respect to the rejection(s) of claim(s) 3 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Grouell et al. (US 2002/0145853) and Lin (US 5,526,875)

6. Applicant's arguments, see pages 9, 10-11, filed 9/3/2006, with respect to the rejection(s) of claim(s) 4,6, and 7 have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn.

7. Applicant's arguments filed 9/3/2006 have been fully considered but they are not persuasive.

With respect to the remarks to claim 1, see the "response to remarks" dated 9/3/2006.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 2006/0096742 further teaches an electronic cooling apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary M. Pape whose telephone number is 571-272-

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2201. The examiner can normally be reached on Mon. - Thur. & every other Fri.  
(8:00am - 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached at 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ZMP

*Lisa Lea Edmonds*  
**LISA LEA-EDMONDS**  
**PRIMARY EXAMINER**